Manitoba
Agriculture

1989
Field Crop Variety Recommendations for Manitoba

This annual Publication is for use with the 1988-90 Field Crop Production Guide. For updates to the Production Guide see pages 30 to 39.

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1989
VARIETY RECOMMENDATIONS FOR MANITOBA

FIELD CROP VARIETY RECOMMENDATIONS FOR MANITOBA
Prepared by
Manitoba Agriculture in cooperation with Agricultural Research Personnel in Industry, University of Manitoba and Agriculture Canada.

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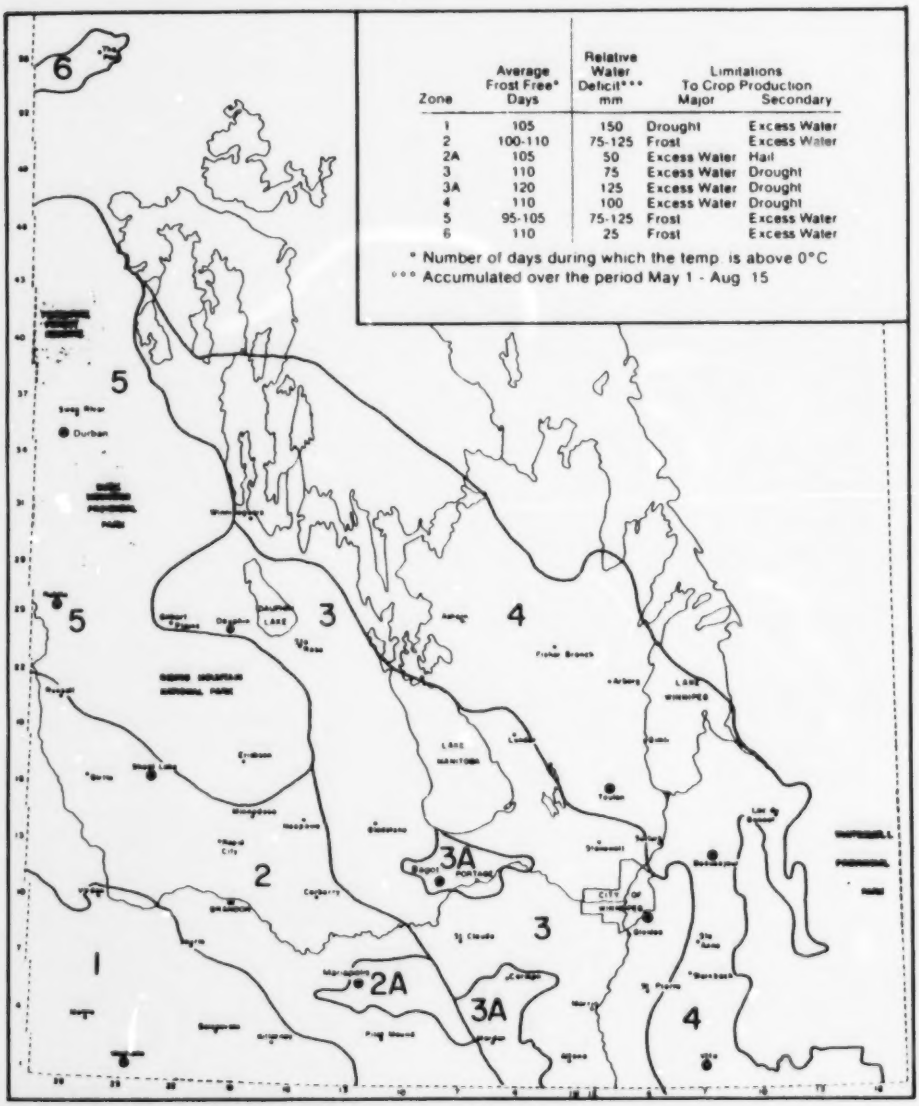
CROP INSURANCE

Except for grain corn, safflower, spring rye and forage crops, all varieties recommended in this publication are insurable under the Canada–Manitoba Crop Insurance Program. For information on the insurability of varieties not recommended in this publication, please contact your nearest Crop Insurance office.

USE OF GOOD SEED

Always use good, preferably pedigreed, seed of a recommended variety. Pedigreed seed is produced under the rules and regulations of the Canadian Seed Growers' Association. It has varietal purity, and must meet the high level of quality and cleanliness required in pedigreed seed grades. In field trials, certified seed has consistently outyielded seed derived from non-pedigreed sources.

CROP VARIETY ZONE MAP FOR MANITOBA



Zone	Average Frost Free* Days	Relative Water Deficit*** mm	Limitations To Crop Production Major	Secondary
1	105	150	Drought	Excess Water
2	100-110	75-125	Frost	Excess Water
2A	105	50	Excess Water	Hail
3	110	75	Excess Water	Drought
3A	120	125	Excess Water	Drought
4	110	100	Excess Water	Drought
5	95-105	75-125	Frost	Excess Water
6	110	25	Frost	Excess Water

* Number of days during which the temp. is above 0°C

*** Accumulated over the period May 1 - Aug. 15

● CROP VARIETY ADAPTATION TRIALS

CEREAL CROPS

BARLEY

• Recommended Varieties

For Malting or Feed (blue aleurone)
Argyle — all zones — 6-row
Bonanza — all zones — 6-row
Conquest — all zones — 6-row
Ellice — all zones — 2-row

For Feed (yellow aleurone)
Bedford — all zones — 6-row
Deuce — all zones — 2-row
Duke (semi-dwarf) — all zones — 6-row
Heartland — all zones — 6-row
Leduc — zones 1 & 2 — 6-row *See Comments*
Tupper (hulless) — all zones — 6-row *See Comments*
Virden — all zones — 6-row

Comments

- **Leduc**: Not recommended for areas where lodging is a serious problem.
- **Tupper:** Stem rust may be a problem. However, this variety is the only hulless barley adapted to Manitoba conditions.

• Barley Variety Descriptions

Variety	Yield as % of Bonanza*	Years Tested	Days to Maturity	Height		Bulk Density		Resistance to:					
				cm	(in)	kg/m³	(lb/bu)	Lodging	Stem Rust	Loose Smut	Surface Borne Smuts	Root Rot	Net Blotch
Argyle	101	5	86	91	(37)	625	(48 6)	Fair	Good	Poor	Poor	Fair	Fair
Bonanza	100	5	85	89	(36)	636	(49 4)	Fair	Good	Poor	Poor	Fair	Fair
Conquest	97	4	84	89	(36)	631	(49 0)	Fair	Good	Poor	Fair	Fair	Fair
Ellice	94	5	87	79	(32)	650	(50 5)	Fair	Good	Poor	Poor	Fair	Fair
Bedford	106	5	87	79	(32)	659	(51 2)	Good	Good	Poor	Fair	Fair	Fair
Deuce	97	3	87	79	(32)	668	(51 9)	Good	Good	Poor	Good	Fair	Poor
Duke (semi-dwarf)	103	2	89	67	(24)	640	(49 7)	Good	Good	Poor	Fair	Fair	Fair
Heartland	109	5	87	72	(30)	638	(49 6)	Good	Good	Poor	Fair	Fair	Good
Leduc	108	5	89	79	(32)	634	(49 2)	Poor	Good	Fair	Good	Fair	Fair
Tupper	90	5	85	87	(35)	700	(54 4)	Fair	Fair	Fair	Poor	Fair	Poor
Virden	114	3	90	81	(33)	627	(48 7)	Good	Good	Poor	Fair	Fair	Fair

**Average yield of Bonanza is 4097 kg/ha (74 bu/ac) in Manitoba trials (1983-88)*

• Yields by Crop Variety Zone (per cent)

Variety	Years Tested	Zone				
		1 & 2*	3	4	5	6**
Argyle	5	101	103	102	97	94
Bonanza	5	100	100	100	100	100
Conquest	4	93	101	104	93	101
Ellice	5	95	100	90	87	104
Bedford	5	102	109	109	100	116
Deuce	3	102	97	99	88	112
Duke (semi-dwarf)	2	98	104	106	104	113
Heartland	5	110	112	108	101	130
Leduc	5	107	111	105	104	132
Tupper	5	88	93	87	85	106
Virden	3	124	112	112	105	128

Zone 1 & 2 data combined due to insufficient test sites in zone 1.
***No data available for 1987 in this zone.*

OATS

• Recommended Varieties

Dumont — all zones
Fidler — all zones
Riel — all zones
Robert — all zones

See Comments

Comments

Robert is a new tan hull coloured variety which yields well. Compared to Dumont, Robert has better lodging resistance, is 2-3 days earlier, has a lower per cent hull and a higher per cent protein. It is the first oat variety combining Barley Yellow Dwarf Virus tolerance with resistance to stem rust, crown rust and smut. Limited seed supplies will be available through SeCan members in 1989.

• Oats Variety Descriptions

Variety	Yield as % of Dumont*	Years Tested	Days to Maturity	Height		Hull Color	(%) Hull	Test Weight		Resistance to			
				cm	(in)			kg/m3	(lb/bu)	Lodging	Stem Rust	Leaf Rust	Smut
Dumont	100	5	98	106	(42)	white	24.0	491	(39.4)	Fair	Good	Good	Good
Fidler	95	5	95	101	(40)	white	24.6	471	(37.8)	Good	Good	Good	Good
Riel	97	5	97	107	(42)	L.tan	21.2	501	(40.2)	Good	Good	Good	Good
Robert	102	4	96	102	(40)	tan	22.5	482	(38.7)	Good	Good	Good	Good

Average Yield of Dumont is 4136 kg/ha (109 bu./ac) in Manitoba trials (1984-1988).

• Yields by Crop Variety Zone (per cent)

Variety	Years Tested	Zone				
		1 & 2*	3	4	4	6**
Dumont	5	100	100	100	100	100
Fidler	5	94	94	92	101	101
Riel	5	97	94	99	101	92
Robert	4	103	102	100	106	101

*Zone 1 & 2 data combined due to insufficient test sites in zone1.
**Based on 4 years of testing for Dumont, Fidler and Riel — 3 years of testing for Robert.

RYE

• Recommended Varieties

Fall Rye
Musketeer — all zones
Prima — all zones

Spring Rye
Gazelle — all zones

• Rye Variety Descriptions

Variety	Yield as % of Musketeer*	Years Tested	Order of Maturity	Winter Survival	Resistance to:		
					Lodging	Shattering	Ergot
Fall Varieties							
Musketeer	100	5	1	Very good	Good	Good	Poor
Prima	106	3	2	Very good	Fair	Good	Poor
Spring Variety							
Gazelle	67	5	—	—	Fair	Good	Poor

*Average yield of Musketeer 3884 kg/ha (62 bu/acre) in Manitoba trials (1984-1988)

TRITICALE

THREE VARIETIES: Carman, Wapiti and Frank (T59) are recommended for production in Manitoba. All varieties are late maturing and have good to fair resistance to lodging, stem and leaf rust and loose smut. Yield is generally higher than Glenlea wheat but protein content is slightly lower. Limited Certified seed of Wapiti may be available through SeCan in 1989.

Triticale is used in Canada both as a food and livestock feed. Wapiti also shows potential for silage production.

Note
The variety Welsh will be de-registered in 1989.

Frank (T59) is a new variety developed at the Agriculture Canada Research Station at Swift Current. Frank is slightly earlier than Carman and Wapiti, and outyields Carman. It is similar to Wapiti in other characteristics. Certified seed of Frank will not be available through SeCan members in 1989.

WHEAT

• Recommended Varieties

Eligible for Canada Western Red Spring grades
Benito — all zones
Columbus — all zones
Katepwa — all zones — See Comments
Kenyon — all zones
Neepawa — all zones — See Comments
Roblin — all zones — See Comments

Eligible for Canada Prairie Spring (Red) grades
HY 320 (semi-dwarf) — all zones
Oslo (semi-dwarf) — all zones

Eligible for Canada Utility grades
Glenlea — all zones

Eligible for Canada Western Amber Durum grades
Arcola — all zones
Medora — all zones
Sceptre — all zones

Comments

- **Katepwa:** Has slightly more leaf rust resistance than Neepawa, but will also suffer yield losses in a leaf rust epidemic year.
- **Neepawa:** Is fairly susceptible to leaf rust and will suffer some yield loss in a year when leaf rust attacks early and severely. It may be removed from the recommended list for 1990.
- **Roblin:** Is shorter-strawed, earlier maturing, and higher grain protein content than other recommended wheat varieties in its class. However, it yielded poorly relative to the other varieties in areas which had very dry conditions in 1988.

Note
Fielder is a soft white spring wheat usually grown under irrigation. It is NOT recommended in Manitoba. It is susceptible to stem rust and the smuts.

Bluesky and Wildcat are new Utility wheat varieties which yield less in Manitoba and have poorer leaf rust and bunt resistance than Glenlea. They are NOT recommended for Manitoba.

• Wheat Variety Descriptions

Variety	Yield as % of Neepawa*	Years Tested	Days to Maturity	Seed Size	Height	Resistance to:				
						Lodging	Stem Rust	Leaf Rust	Loose Smut	Bunt
Benito	97	5	97	Small	Medium	Fair-Good	Good	Good	Good	Fair
Columbus	99	5	100	Medium	Medium+	Good	Good	Good	Fair	Good
Katepwa	102	5	97	Medium	Medium	Good	Good	Fair	Good	Good
Kenyon	98	2	97	Medium	Medium	Good	Good	Good	Good	Fair
Neepawa	100	5	97	Medium	Medium	Good	Good	Poor	Good	Fair
Roblin	100	3	95	Medium+	Medium-	Excellent	Good	Good	Good	Fair
HY 320	118	5	103	Medium+	Semidw	Excellent	Good**	Good	Poor	Poor
Oslo	110	3	98	Medium+	Semidw	Excellent	Good	Good	Poor	Fair
Glenlea	110	5	102	Large	Medium+	Good	Good	Good	Good	Fair
Arcola	115	5	99	Large+	Medium	Fair	Good	Good	Fair	Good
Medora	119	5	100	Large	Medium+	Fair-Good	Good	Good	Fair	Good
Sceptre	119	4	100	Large	Medium-	Good	Good	Good	Fair	Good

Average Neepawa yield 2836 kg/ha (42 bu/ac) in Manitoba trials (1984-88).
***Stem rust will develop on late planted HY 320 when inoculum is abundant.*

• Yields by Crop Variety Zone (per cent)

Variety	Years Tested	Zone				
		1 & 2*	3	4	5	6**
Benito	5	95	97	99	97	96
Columbus	5	102	98	100	97	93
Katepwa	5	100	103	102	103	95
Kenyon	2	94	96	103	104	103
Neepawa	5	100	100	100	100	100
Roblin	3	97	95	103	109	110
HY 320	5	118	117	112	129	109
Oslo	3	107	107	112	122	103
Glenlea	5	102	105	121	119	109
Arcola	5	112	114	120	122	96
Medora	5	113	119	128	123	92
Sceptre	4	116	121	113	132	83

Zone 1 & 2 data combined due to insufficient test sites in zone1.
***Three year's data only for durum wheats (1984-86).*

WINTER WHEAT

All registered varieties lack sufficient hardiness for conventional production in Manitoba. Seeding into standing stubble provides a snow trap that improves winter survival. Currently registered varieties are very susceptible to leaf and stem rust. Norstar is the hardiest variety available and on average yields 125% of the spring wheat variety, Neepawa, in Manitoba.

NorWin, a semi-dwarf variety, is inferior to Norstar in winter survival and yield and should NOT be grown in Manitoba.

OILSEEDS AND SPECIAL CROPS

BUCKWHEAT

• Recommended Varieties

Large Seeded
Mancan – zones 1-5
Manor – zones 1-5

Comments
Tokyo was removed from the recommended list due to the unavailability of seed.

• Buckwheat Variety Descriptions

Variety	Yield as % of Mancan	Years Tested	Days to 100% Bloom	Height		Seed Wt g/1000
				cm	(in)	
Mancan	100*	5	45	126	(50)	29.7
Manor	104	5	44	120	(47)	29.3

**Average yield, 2171 kg/ha (1937 lb/acre) in Manitoba trials (1984-88).*

CANARYSEED

• Recommended Varieties

Elias – zones 1-5
Keet – zones 1-5

Comment
Elias canaryseed was developed at the University of Minnesota, and released by the Minnesota Crop Improvement Association. Breeders seed is maintained in Canada at the University of Saskatchewan, Saskatoon.

• Canaryseed Variety Descriptions

Variety	Yield as % of Keet	Years Tested	Days to Maturity	Height		1000 Seed wt. (g)
				cm	(in)	
Elias	99	4	110	86	(34)	7.6
Keet	100*	4	109	83	(33)	7.2

**Average yield 1856 kg/ha (1657 lb/ac) in Manitoba trials (1984-88).*

CANOLA-RAPESEED

• Recommended Varieties – Canola Type

(all low erucic, low glucosinolate)

Argentine type (Brassica napus)
Alto – zones 1-5
Global – zones 1, 2, 2A, 3 & 3A
Legend – zones 1-5
Regent – zones 1-5
Stellar – zones 1-5
Topas – zones 1, 2, 2A, 3 & 3A
Westar – zones 1-5

Triazine tolerant varieties
OAC Triton – zones 1-5
OAC Triumph – zones 1-5
Tribute – zones 1-5

Polish type (Brassica campestris)
Colt – zones 1-5
Horizon – zones1-5
Tobin – zones 1-5

Comments

The western Canadian oilseed crushing industry now processes only seed from canola (low erucic, low glucosinolate) varieties. Importers in other countries are also developing a preference for canola. It is recommended that producers use only Certified seed of the recommended canola varieties to assure acceptability of their product.

Limited production of high erucic acid rapeseed varieties for industrial markets is continuing. This production is on a contract basis only.

Alto is a spring canola variety, tested as 81-17016A and developed at the University of Alberta. Seed is available from Cen Alta Grain Co., Edmonton, Alberta.

Legend (SV02402), Colt (SV8236579), and Horizon (SV03334) were developed by Svalof AB, Sweden. Seed is distributed by Bonis & Company Ltd., Ontario, and will be available from Manitoba Pool Elevators in 1990.

Topas (SV02223) developed by Svalof AB, Sweden, is distributed by Bonis & Company Ltd., Ontario and by Wheat City Seeds Ltd., Brandon, and Northern Sales Co. Ltd., Winnipeg.

OAC Triumph (OAC SC 85-03) is a new triazine tolerant variety developed at the University of Guelph and is distibuted through SeCan Association.

Stellar is a canola cultivar which produces a special quality oil with low levels of linolenic acid and is grown on a contract basis only through CSP Foods.

• Canola Variety Descriptions

Species and Variety	Yield as % of Westar	Years Tested	Days to Maturity	Height		Seed oil (%)	Meal Protein (%)	Resistance to	
				cm	(in)			White Rust/ Staghead	Blackleg
Argentine. (B. napus)									
*Alto***	*101*	*1*	*97*	*121*	*(48)*	*44.3*	*47.7*	*Good*	*Poor*
Global	104	2	103	137	(54)	42.7	42.7	Good	Fair
*Legend***	*93*	*1*	*95*	*113*	*(44)*	*43.3*	*47.7*	*Good*	*Fair*
Regent	93	5	94	113	(44)	42.6	46.9	Good	Fair
Stellar	81	2	96	112	(44)	43.0	46.0	Good	Fair
*Topas***	*87*	*1*	*102*	*126*	*(50)*	*44.0*	—	*Good*	*Poor*
Westar	100*	5	92	107	(42)	43.1	45.7	Good	Poor
Triazine tolerant varieties									
OAC Triton	76	5	95	108	(43)	40.1	47.2	Good	Poor
*OAC Triumph***	*67*	*1*	*96*	*129*	*(51)*	*41.7*	—	*Good*	*Poor*
Tribute	70	3	94	98	(39)	40.2	47.2	Good	Poor
Polish (B. campestris)									
*Colt***	*80*	*1*	*85*	*108*	*(43)*	*42.7*	*43.5*	*Poor*	*Poor*
*Horizon***	*74*	*1*	*85*	*109*	*(43)*	*42.7*	*42.6*	*Poor*	*Poor*
Tobin	76	5	82	98	(39)	41.6	42.6	Good	Poor

*Average yield 2617 kg/ha (2335 lb/acre) in Manitoba trials (1984-88).
**Data from 1988 only, a hot dry severe stress year in many Manitoba locations.

• Yields by Crop Variety Zone (per cent)

Species and Variety	Years Tested	Zone**				
		1	2	3	4	5
Argentine (B. napus)						
Alto	1	95	111	95	91	100
Global	2	94	109	98	102	112
Legend	1	99	95	104	91	85
Regent	5	103	99	88	94	79
Stellar	2	75	90	77	81	84
Topas	1	59	85	87	92	91
Westar*	5	100	100	100	100	100
Triazine tolerant varieties						
OAC Triton	5	76	78	73	76	70
OAC Triumph	1	69	67	70	68	64
Tribute	5	69	75	68	70	67
Polish (B. campestris)						
Colt	1	82	65	89	84	80
Horizon	1	84	55	77	83	76
Tobin	5	90	58	83	83	73
***Westar Check**						
kg/ha		2557	2525	2704	2373	2788
lbs/acre		2281	2252	2412	2117	2487

**Zone 6 is not included due to lack of data.*

FABABEANS

• Recommended Varieties

Ackerperle – zones 2, 3, 4 & 5
Aladin – zones 2, 3, 4 & 5
Herz Freya – zones 2, 3, 4 & 5
Outlook – zones 2, 3, 4 & 5
Pegasus – zones 2, 3, 4 & 5

• Fababean Variety Descriptions

Variety	Yield as % of Pegasus	Years Tested	Seed Wt. g/1000	Days to Maturity	Protein Content %
Ackerperle	97	4	351	107	29.6
Aladin	98	4	408	106	29.8
Herz Freya	102	5	381	102	28.6
Outlook	104	4	328	105	29.6
Pegasus	100*	5	355	105	29.7

**Average Yield 4766 kg/ha (4251 lb/acre) in Manitoba trials (1984–88)*

FIELD BEANS

• Recommended Varieties

Variety	Type	
Loop	Black	South of Township 14, Zones 1, 2, 2A, 3 & 3A
Seafarer	Navy	and that portion of Zone 4 with a minimum corn
OAC Seaforth	Navy	heat unit accumulation of approximately 2400.

• Field Beans Variety Descriptions

Type	Variety	Yield as % of Seafarer	Years Tested	Seed Wt g/1000	Days to Maturity	Plant Height	
						cm	(in)
Black	Loop	125	3	177	107	57	(22)
Navy	OAC Seaforth	102	3	181	98	46	(18)
Navy	Seafarer	100*	3	182	97	45	(18)

**Average yield 2788 kg/ha (2487 lb/acre) in Manitoba trials (1986–88)*

FIELD PEAS

• Recommended Varieties

Yellow Peas
Century – zones 1-5 medium-seeded
Express – zones 1-5 medium-seeded
Fortune – zones 1-5 medium seeded
Tara – zones 1-5 medium seeded
Tipu – zones 1-5 medium-seeded, semi-leafless
Titan – zones 1-5 large-seeded
Trapper – zones 1-5 small-seeded
Victoria – zones 1-5 medium -seeded

Green Peas
Princess –zones 1-5 medium-seeded
Triumph – zones 1-5 large-seeded

Comments
Fortune, developed by Svalof AB, Sweden was registered in Canada in 1987. Fortune is high yielding but matures late and is more susceptible to powdery mildew. Manitoba Pool has the seed distribution rights through Bonis & Co. Ltd., Lindsay, Ontario.

Express, also developed by Svalof AB, Sweden was registered in Canada in 1987. Express is high yielding and early maturing but more susceptible to powdery mildew. Manitoba Pool has the seed distribution rights through Bonis & Co. Ltd., Lindsay, Ontaio.

Princess, a green seeded variety developed by Wilbur Ellis Co., U.S.A. was registered in Canada in 1988. Princess is early maturing but yields lower than other cultivars. CanMar Grain Inc., Regina, Saskatchewan, has the seed distribution rights.

• Field Pea Variety Descriptions

Variety	Yield as % of Century	Years Tested	Days to Maturity	Length of Vine cm	Length of Vine (in.)	Seed Weight g/1000	Protein %
Yellow Peas							
Century	100*	2	91	113	(44)	229	24 8
Express	124	2	89	68	(27)	216	23 6
Fortune	107	2	99	78	(31)	173	24 2
Tara	124	2	93	106	(42)	204	24 0
Tipu	95	2	94	113	(44)	219	23 3
Titan	109	2	96	116	(46)	250	23 3
Trapper	101	2	91	99	(39)	141	25 0
Victoria	115	2	88	92	(36)	180	23 9
Green Peas							
Princess **	*93*	*1*	*85*	*67*	*(26)*	*178*	*21 0*
Triumph	110	2	94	78	(31)	290	25 0

*Average yield 2028 kg ha (1809 lb acre) in Manitoba trials (1987-88).
**Data for 1988 only, a hot dry severe stress year in many Manitoba locations.

• Yields by Crop Variety Zone (per cent)

Variety	Years Tested	Zone 1	2	3	4	5
Century*	2	100	100	100	100	100
Express	2	127	133	109	128	132
Fortune	2	114	136	88	75	111
Tara	2	114	121	122	137	133
Tipu	2	91	99	88	103	104
Titan	2	98	116	104	118	113
Trapper	2	97	110	93	111	97
Victoria	2	106	110	114	116	130
Princess	1	113	91	87	90	90
Triumph	2	119	124	88	109	121
*Century check						
kg/ha		2416	2229	1834	2160	1686
lb/acre		2155	1988	1636	1927	1504

FLAX

• Recommended Varieties

Dufferin – zones 1-5
Linott – zones 1-5
McGregor – zones 1-5
NorLin – zones 1-5
NorMan – zones 1-5

Plant all varieties early for maximum yield, particularly Dufferin and McGregor. In northern areas use the earlier Linott, NorLin or NorMan. When seeding is delayed Linott and NorLin will give the best results.

• Flax Variety Descriptions

Variety	Yield as % of Dufferin	Days to Maturity	Height cm	Height (in)	Resistance to Lodging	Seed Weight g/1000	% Oil Content	Oil** Quality	Resistance to Rust	Resistance to Wilt
Dufferin	100*	100	62	(24)	Fair	5.5	44.1	181	Good	Fair
Linott	89	92	55	(22)	Fair	5.6	42.7	181	Good	Fair
McGregor	104	100	60	(24)	Good	5.3	43.0	183	Good	Fair
NorLin	100	93	57	(22)	Fair	5.8	42.6	180	Good	Fair
NorMan	102	97	56	(22)	Fair	5.7	43.9	176	Good	Fair

Average yield 1765 kg ha (1574 lb acre) in Manitoba trials (1984-88).
**Drying property measured in iodine units.*

• Yields by Crop Variety Zone (per cent)

Variety	Years Tested	Zone**				
		1	2	3	4	5
Dufferin*	5	100	100	100	100	100
Linott	5	87	82	92	94	89
McGregor	5	102	103	106	104	103
NorLin	5	101	94	101	107	95
NorMan	5	97	101	104	105	99
***Dufferin check**						
kg/ha		1796	1622	1865	1704	1813
lbs/acre		1602	1447	1664	1520	1617

***Zone 6 is not included because flax is not tested in the zone*

LENTILS

• Recommended Varieties

Eston – zones 1-5
Laird – zones 1, 2, 2A, 3 & 3A

• Lentil Variety Descriptions

Type	Variety	Years Tested	Yield as % of Laird	Days to Maturity	Seed Weight g/1000	Plant Height	
						cm	(in)
Persian	Eston	5	120	94	34	37	(15)
Chilean	Laird	5	100*	102	60	50	(20)

**Average yield 1463 kg/ha (1323 lbs/acre) in Manitoba trials (1984-88)*

• Yields by Crop Variety Zone (per cent)

Variety	Zone (# of Years Tested)			
	1 (4)	2 (5)	3 (5)	5 (5)
Eston	101	101	148	113
Laird*	100	100	100	100
***Laird check**				
kg/ha	1733	1703	1328	1110
lbs/acre	1546	1519	1185	990

MUSTARD

• Recommended Varieties

Yellow
Gisilba – zones 1-5
Kirby – zones 1-5
Ochre – zones 1-5
Tilney – zones 1-5

Oriental
Cutlass – zones 1-5
Lethbridge 22A – zones 1-5

Comments
The brown mustard cultivar Scimitar has a green seed problem which makes it unacceptable to the Mustard Association. It is therefore not recommended.

Common Brown has not been included because there are not recommended registered varieties. It does have acceptable quality to the Mustard Association and yielded 114% of Gisilba in Manitoba Trials (1985-88).

Domo mustard has not been included due to lack of data.

• Mustard Variety Descriptions

Kind	Variety	Years Tested	Yield as % of Gisilba	Days to Maturity	Height		Oil
					cm	(in)	%
Yellow	Gisilba	5	100*	96	111	(44)	26.9
Yellow	Kirby	5	104	96	113	(44)	27.5
Yellow	Ochre	4	101	96	111	(44)	27.1
Yellow	Tilney	5	103	96	113	(44)	26.7
Oriental	Cutlass	4	128	91	124	(49)	37.6
Oriental	Leth 22A	5	115	91	121	(48)	37.8

**Average yield 2125 kg ha (1896 lb acre) in Manitoba trials (1984-88)*

• Yields by Crop Variety Zone (per cent)

Variety	Years Tested	Zone**				
		1	2	3	4	5
Gisilba*	5	100	100	100	100	100
Kirby	5	110	134	102	97	101
Ochre	4	107	113	96	97	98
Tilney	5	104	123	103	100	95
Cutlass	4	132	147	122	137	119
Leth 22A	5	115	132	114	120	104
***Gisilba check**						
kg/ha		2235	1981	2190	1917	2101
lb/acre		1994	1767	1954	1710	1874

***Zone 6 is not included because mustard is not tested in the zone*

POTATOES

• Recommended Varieties

Early crop	Storage
Red: Norland	Red: Norland, Red Pontiac
White: Carlton	White: Norchip, Monona, Kennebec, Shepody
Conestoga	Russet: Russet Burbank, Norgold Russet
	Yellow Flesh: Yukon Gold

• Potato Variety Descriptions

- **Carlton:** An early maturing variety with white-skinned, oval, shallow-eyed tubers that size early.
- **Conestoga:** A good-yielding, early maturing variety with white-skinned, round, shallow-eyed and high specific gravity tubers. It is suitable for early chipping and early table stock sales but is somewhat susceptible to hollow heart.
- **Norland:** A good yielding early maturing variety with red-skinned, shallow-eyed tubers suited for early harvest and storage until mid-winter.
- **Kennebec:** A very late maturing high yielding variety with white-skinned, shallow-eyed tubers suitable for chipping. It is susceptible to greening.
- **Monona:** A medium to high-yielding variety of mid-season maturity with white-skinned, oblong, shallow-eyed tubers of medium to low specific gravity that are suitable for chipping. Chips of acceptable quality can be produced after long-term storage.
- **Norchip:** A good yielding, medium maturing variety with white-skinned, high-specific-gravity tubers. It has acceptable chipping characteristics and a short dormancy period.
- **Norgold Russet:** A good-yielding variety of medium maturity with oblong to long uniform tubers with short dormancy period. Cooking quality is suited to baking and table stock sales but the percentage of grade-out resulting from hollow heart can be very high making the potatoes unsaleable without the aid of mechanical hollow heart sorting equipment.
- **Red Pontiac:** A high yielding drought tolerant variety with red-skinned, medium deep-eyed tubers of low dry matter content. Suitable for table stock use.
- **Russet Burbank:** A high quality, late maturing variety with russet-skinned, long, shallow-eyed tubers suitable for processing (other than chips), baking and table stock use. Its tuber shape can be extremely variable if plants are subject to stress during the tuber enlargement period of growth.
- **Shepody:** A high quality, late mid-season maturing variety with large, white-skinned, oblong-to-elliptical tubers. Yield, specific gravity and french fry color are similar to Russet Burbank. First harvest for processing is expected to be acceptable at a minimum of 5 to 7 days earlier than Russet Burbank.

- **Yukon Gold:** a medium-yielding, medium maturing, yellow-fleshed variety with high specific gravity and shallow-eyed tubers with acceptable table stock cooking quality. The percentage of hollow heart can frequently exceed the Canada grade tolerance levels.

SAFFLOWER

• Recommended Variety

Saffire

• Safflower Variety Description

Variety	Yield*		Years Tested	Days to Maturity	Height		Seed Wt. g/1000	Resistance to:	
	kg/ha	(lb/ac)			cm	(in)		Sclerotinia Head Rot	Alternaria Leaf Spot
Saffire	1316	(1174)	5	114	46	(18)	37.1	fair	fair

Average yield in Manitoba trials (1984-88).

SOYBEANS

• Recommended Varieties

	Maturity Group	Minimum Corn Heat Unit Requirement
Baron	000	2450
KG20	00	2400
Maple Amber	000	2300
Maple Ridge	000	2300
McCall	00	2500

Soybeans are placed into maturity groups based on their photoperiod sensitivity. The 00 maturity group soybeans are the earliest maturing photoperiod sensitive soybeans, adapted for production in the 45 to 50 degree latitude range. 000 maturity group soybeans are very early maturing, photoperiod insensitive soybeans, adapted for production at high latitudes.

Seed treatment with the specific inoculum is essential.

• Soybean Variety Description

Variety	Yield as % of Maple Amber	Years Tested	Seed Weight g/1000	Days to Maturity		Protein Content %	Oil Content %	Height	
				Average	Range			cm	(in)
Baron	104	4	156	109	100-124	40.7	20.7	71	(28)
KG 20	109	5	175	108	100-126	40.8	19.1	74	(29)
Maple Amber	100*	5	151	113	101-130	41.0	21.3	75	(30)
Maple Ridge	103	5	139	107	98-118	41.5	19.6	65	(26)
McCall	100	5	144	114	106-134	39.7	20.0	78	(31)

Average yield 2677 kg/ha (2388 lb/ac) in Manitoba trials (1983-87).

SUGAR BEETS

This crop is grown under contract with Manitoba Sugar Company and seed is provided under the contract.

SUNFLOWERS

• Recommended Hybrids

All sunflower hybrids listed in the hybrid description table are recommended in Zones 1 and 2 (south of township 18), and Zones 2A, 3, 3A and 4 (south of township 19).

Hybrid Oil Type	Company	Yield as % of Checks[1]	Years Tested	Days to Maturity	% Oil (10% Moisture)	Height cm	Height (in)	Resistance to Rust[2]	Resistance to Verticillium Wilt	Resistance to Downy Mildew[3]
205	Cargill	94	5	117	42.4	155	(61)	Fair	Good	Fair
207	Cargill	108	5	118	38.9	167	(66)	Good	Good	Poor
SF103	Cargill	102	5	118	39.5	168	(66)	Good	Good	Poor
Challenger	Jacques	100	5	115	42.3	145	(57)	Fair	Good	Good
Dakota Gold II	SeedTec	92	4	114	44.6	144	(57)	Fair	Good	Fair
DO 164	Dahlgren	93	5	115	39.9	156	(61)	Good	Good	Good
DO 855	Dahlgren	95	5	116	41.9	152	(60)	Good	Good	Good
IS 3320*	Interstate	95	3	116	43.9	149	(59)	Fair	Good	Good
IS 7000	Interstate	93	5	114	43.2	148	(58)	Good	Good	Fair
7101	Interstate	94	5	114	41.3	156	(61)	Fair	Good	Good
IS 7111	Interstate	98	5	114	43.6	150	(59)	Fair	Fair	Fair
K837*	King Agro	94	3	108	41.4	161	(63)	Fair	Fair	Fair
S 1296	Northrup King	102	4	114	43.7	147	(58)	Fair	Fair	Good
S 1888	Northrup King	93	5	116	41.4	156	(61)	Fair	Good	Good
S 330	SeedTec*[4]	97	4	118	40.4	152	(60)	Fair	Good	Fair
422*	Sigco	94	3	110	40.7	143	(56)	Fair	Good	Good
452	Sigco	99	4	117	42.7	147	(58)	Fair	Good	Good
Sun M20	Sask Pool	86	5	107	42.8	154	(61)	Fair	Fair	Poor
Sun S600	Sask Pool	102	4	114	41.9	150	(59)	Good	Good	Fair
Sunbred 265	Northrup King	97	5	118	41.7	147	(58)	Good	Good	Good
Sunwheat 101*[5]	SeedTec	88	3	108	38.3	91	(36)	Fair	Good	Good
Non-oilseed Type					**Seed size %over 20/64**					
D131	Dahlgren	105	5	117	31	153	(60)	Good	Fair	Poor
IS 8004	Insterstate	100	4	117	46	168	(66)	Good	Fair	Poor
Royal Hyb. 2141	Agway	108	5	116	24	163	(64)	Good	Good	Poor
954	Sigco	103	5	116	57	156	(61)	Good	Good	Poor
964	Sigco	108	5	112	39	149	(59)	Good	Fair	Poor

On recommended list for first time.

[1] *Mean of hybrids Cargill 205, Cargill 207 and IS 7111. Average yield, 1984-88 all Manitoba: 2506 kg/ha (2238 lb/acre).*

[2] *Resistances indicated are those to race 1 of rust. However, hybrids are susceptible to other races including race 3 (field observation in western Manitoba, 1988).*

[3] *Resistances indicated are those to race 2 of downy mildew. All hybrids are highly susceptible to race 3, currently well established in Manitoba.*

[4] *S330 has shown to be less susceptible to sclerotinia stem rot than other hybrids.*

[5] *Sunwheat 101 is a dwarf sunflower hybrid which requires specific management practices. Rows 45 cm (18 in) apart with a population density of 75,000-100,000 plants/hectare (30,000-40,000 plants/acre) are recommended. Sunwheat also performs better with later seeding. At Morden, the yields increased substantially when seeding was delayed from mid-May to mid-June in tests between 1986-88.*

Heat Unit Rating	Hybrid	Company	Hybrid Type[1]	Days to Silk	Stalk Breakage (%)	Root Lodging (%)	Grain Density[2] (% of checks)	Grain Moisture (%)	Grain Yield[3] (% of Checks)	Silage Yield[4] (% of mean)	Plant Moisture (%)
2150	DK 233	Dekalb	SC	70	9.1	0.6	104	31.6	95	N.T.	N.T.
	K730	King Agro	3W	73	4.3	3.3	102	28.2	96	103	63.7
	LG3	Limagrain	3W	70	3.5	4.8	99	32.2	98	N.T.	N.T.
	2435	Pickseed	3W	72	5.5	4.9	101	29.8	89	82	58.3
	3995	Pioneer	3W	70	5.2	2.6	101	30.6	93	N.T.	N.T.
2200	Coop 2350	U. Coop	OC	73	4.8	5.0	99	29.5	91	96	63.3
	DK235	Dekalb	OC	73	2.0	6.6	98	29.9	105	N.T.	N.T.
	G4017	Funk	3W	74	3.0	1.5	102	30.1	102	92	66.4
	HL3282*	Thompson	3W	71	5.3	2.9	99	31.3	105	98	59.6
	3996	Pioneer	3W	73	7.7	3.7	102	30.6	92	N.T.	N.T.
2250	Coop 6312	U.Coop	3W	74	4.9	0.9	97	30.8	98	99	63.4
	DK246	Dekalb	3W	75	4.5	11.5	97	33.3	92	N.T.	N.T.
	G4067*	Funk	3W	73	2.8	4.9	95	32.9	99	96	66.7
	G4083	Funk	SC	74	2.9	1.8	101	32.2	90	89	66.5
	MacRL211	UGG	3W	74	8.1	2.5	101	32.7	93	98	67.0
	PX9028	NK	3W	76	2.0	3.8	97	30.4	96	107	65.9
	2120	Pickseed	3W	72	6.6	3.8	95	33.5	93	93	63.3
	2477	Pickseed	3W	72	2.5	0.8	100	33.9	98	91	64.0
	3969	Pioneer	SC	73	4.5	0.9	97	32.6	111	N.T.	N.T.
	3979	Pioneer	SC	73	1.4	2.5	95	32.5	114	110	65.9
	SX104	Cargill	MSC	72	5.8	1.1	98	33.4	92	95	62.0
2300**	Coop2325	U.Coop	SC	76	3.1	5.3	97	30.7	92	113	63.0
	2555A	Pickseed	MSC	75	5.9	7.6	95	34.5	98	105	64.8
2350**	1111	King Agro	SC	75	5.4	0.9	95	33.5	97	103	63.8
	2240	Pickseed	MSC	76	2.2	3.2	100	34.0	92	101	67.3

**On recommended list for first time.*

***Insurance coverage not available. Check with MCIC for coverage on lower heat unit varieties.*

N.T. = Not Tested.

[1] SC = Single Cross; 3W = 3-Way Cross; MSC = Modified Single Cross; OC = Other Cross.

[2] Mean Grain Density (Checks) = 654 kg/m3 (52.4 lb/ac);

[3] Mean Grain Yield (Checks) = 4.11 t/ha (65.5 bu/ac);

[4] Mean Silage DM yield = 10.91 t/ha (4.42 t/ac).

• Corn Hybrid Descriptions – Silage only

Heat Unit Rating	Hybrid	Company	Hybrid Type[1]	Days to Silk	Root Lodging (%)	Silage Yield[4] (% of mean)	Plant Moisture (%)
2400	JX3*	Jacques	SC	77	1.6	109	66.6
	K1115	King Agro	MSC	77	0.6	98	67.9
	N1110	NK	3W	75	1.6	105	65.8
	3953	Pioneer	SC	76	0.9	107	67.7
2450	G4066	Funk	MSC	77	0.8	101	68.6
	HL2260	Thompson	SC	77	3.0	110	66.7
	3957	Pioneer	SC	77	1.3	108	67.1
	PX9060	NK	SC	77	0.6	102	66.4
	T778	Dekalb	MSC	78	7.2	109	66.0
2500	HL2428	Thompson	SC	80	1.7	122	69.6
	G4018	Funk	SC	81	4.2	128	71.7
	SX108*	Cargill	SC	80	0.9	114	68.1
	XL6	Dekalb	SC	80	0.8	101	69.2

FORAGE CROPS

GRASSES

• Recommended Varieties
(listed in alphabetical order)

Bluegrass*

Bromegrass
Carlton
Magna

Creeping Red Fescue*

Crested Wheatgrass
Fairway
Nordan
Parkway

Intermediate Wheatgrass
Chief

Meadow Fescue
Ensign
Trader

Orchardgrass
Kay

Reed Canarygrass*

Russian Wild Ryegrass
Swift

Slender Wheatgrass
Revenue

Tall Wheatgrass
Orbit

Timothy
Champ – pasture type
Climax – hay type
Itasca – hay type
Timfor – hay and pasture

**Insufficient data available for variety recommendation.*

LEGUMES

• Recommended Varieties
(listed in alphabetical order)

Alfalfa

Early Maturing
Apica – hay type
Anchor – hay type
Angus - hay type
Citation – hay type
Hunter – hay type
Pacer – hay type
Primal – hay type
Peak – hay type
Saranac – hay type
Thor – hay type
Trumpetor – hay type
Turbo – hay type
Vista – hay type

Medium maturing
Algonquin – hay type
Beaver – hay type
Glory – hay type
OAC Minto – hay type
Valor – hay type

Creeping rooted
Rambler – pasture type
Rangelander – pasture and hay type
Roamer – pasture type
Spredor II – pasture type

•Recommended Varieties – continued

Alsike Clover*

Birdsfoot Trefoil
Cree – for seed and pasture
Empire – for seed and pasture
Leo – for seed and pasture

Red Clover*

Sweet Clover
Norgold – yellow blossom, low coumarin
Polara – white blossom, low coumarin
Yukon –yellow blossom

**Insufficient data available for variety recommendation.*

Comments
Early-maturing, medium-maturing and creeping-rooted alfalfas are recommended in Manitoba. The early-maturing varieties develop quickly in the spring, and provide more and earlier regrowth than medium-maturing varieties. The medium varieties are more winter hardy than the early varieties. Creeping-rooted alfalfas are somewhat lower yielding than either the early or medium maturing types but they are the most persistent.

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CHANGES TO *THE 1988-90 FIELD CROP PRODUCTION GUIDE FOR MANITOBA*

New information for the above publication can be found in the following pages.

SEEDING DATES

Early seeding usually provides significantly higher yields than delayed seeding. Early seeding is in effect a 'no cost' input for maximizing returns. Delaying seeding for weed control measures can result in yield losses that are more costly than an effective herbicide treatment.

Variety selection is an important consideration. In areas of fewer frost free days, you would choose an earlier and possibly lower yielding variety to lessen the risk of frost. Frost can have economic repercussions in both yield and grade. 1700 kg/ha (25 bus/ac) of #2 wheat is better than 2200 kg/ha (32 bus/ac) of a higher yielding variety that grades 'Sample Account Frost.'

Be cautious before growing a variety that has historically been well adapted to your area, but is no longer on the Recommended List. You should check to see if it is insurable for All Risk Crop Insurance.

Variety selection is important if weather conditions force you to seed late. Some varieties are known to maintain yields and quality with late seeding better than other varieties. Switching from Argentine to Polish Canola in late seeding may reduce the risk of grade loss due to green seed.

Early seeding of crops into cool soils increases the importance of seed treatment. See page ??? for recommended treatments.

Another consideration for seeding dates is the requirement of grain drying in the fall. Early seeded crops will normally ripen and dry in the field without the need of grain drying. Unheated air drying is more likely to be feasible with an early seeded crop that is harvested in August. Late seeded crops that remain in the field in late September or October are more likely to require heated air drying. Analysis of the feasibility of natural air drying is available through any of the engineering offices of Manitoba Agriculture.

SPRING FROSTS:

The risk of spring frost also determines the time of planting.

Damage to any crop is dependent not only on the temperature, but also the duration of the frost. Cool evenings prior to a frost will tend to harden plants and provide better frost tolerance than a sudden frost after warm temperatures.

Cereals are seldom damaged permanently by a spring frost. The growing point of cereals remains below ground till about the 4 leaf stage. A frost that kills the leaves at the two leaf stage will not kill the growing point, and the crop will recover. Cereals have a higher tolerance than most crops, for example, barley has been known to withstand up to -8 C before damage at the two leaf stage.

Oilseed crops are more susceptible to frost because their growing point is above ground. If the growing point is killed, the crop will not recover. Oilseeds are also more temperature sensitive than cereals.

Flax is quite sensitive as it emerges. However once it is past the cotyledon stage and hardened off, it can survive frosts of up to -8 C.

Canola varies in its susceptibility to frost. Canola that has been hardened off by previous near frost nights has been known to survive frosts of -8 to -9 C. Canola not subjected to hardening has been killed at temperatures of -3 to -4 C. After a light frost, it can require 4 to 10 days to evaluate whether the growing point has been killed. If there is new green growth in the center of the plant, the canola will recover.

WHEAT

Suggested seeding dates: May 1 to May 31

Early seeding allows wheat to avoid the heat and drought stress of Mid-summer. Wheat's potential head size is determined at the 3 to 4 leaf stage. Late seeded wheat is more prone to damaging heat stress at this development stage.

Five years of survey data from Manitoba Crop Insurance (1983-1987) indicate the following yield responses to seeding dates.

Wheat Yield Based On Seeding Date

Seeding Date	Relative Yield %
April	100
1st week May	95
2nd week May	90
3rd week May	85
4th week May	81
1st week June	76

Although the average difference from April to June was 590 kg/ha (8.8 bu/ac) the range in individual years was from 300 kg/ha to 1200 kg/ha (4.5 to 18 bu/ac). In high yielding years, the response to seeding date is more pronounced.

Semi-dwarf wheats and Glenlea are very sensitive to delayed seeding. If seeding is delayed to mid-May, consideration of yield potential and crop value may warrant a switch to hard red spring wheat or another crop if your herbicide and rotation plans permit alternate choices.

BARLEY

The suggested seeding dates for barley are May 1 to May 31. Yields beyond these dates often drop dramatically.

Barley Yield Based on Seeding Date

Seeding Date	Relative Yield %
1st week of May	100
2nd week of May	97
3rd week of May	93
4th week of May	90
1st week of June	82

Recent work from Agriculture Canada, Brandon, confirms that varieties do respond differently with seeding dates. For early seeding dates, Johnston (no longer recommended) was the highest yielding variety tested. For late seeding (early June), Johnston did poorly but the variety Leduc yielded consistently higher over the three years of testing.

The malting variety Argyle yielded near the average of all eleven varietes tested for early seeding but dropped to as low as 77 to 80% for late seeding.

Agronomic characteristics of varieties must also be considered. If lodging is a problem in your district, that may be a more important selection factor than varietal differences in response to seeding dates.

There is a lack of information to date on the responses of semi-dwarf barleys and seeding dates. Early shallow seeding is recommended.

FLAX

Suggested seeding dates:

Early maturing varieties	May 10 to June 10
Late maturing varieties	May 10 to May 30

Early seeding of flax generally results in higher yields. Yields reported by seeding dates in the Manitoba Crop Insurance Survey were as follows:

Flax Yield Based on Seeding Date

Seeding Date	Relative Yield %
1st week of May	100
2nd week of May	97
3rd week of May	92
4th week of May	85
1st week of June	76

Dessication of flax to enhance harvesting can be a significant cash cost item in a cropping plan. Early seeded flax will seldom require dessication as it will mature before the cool damp fall weather Manitoba often experiences.

Flax varieties differ in their response to late seeding. If you are forced into delayed seeding the varieties Culbert, Linott or NorLin should be grown.

CANOLA

Suggested seeding dates:

Argentine type	May 5 to May 30
Polish type	May 5 to June 15

M.C.I.C. data for Canola shows the relationship between yield and seeding dates:

Canola Yield Based on Seeding Date

Seeding Date	Relative Yield %
1st week of May	100
2nd week of May	99
3rd week of May	99
4th week of May	92
1st week of June	83

In most areas of the province, early to mid-May seeding provides the best yields. The Manitoba Crop Adaptation trials indicate that even with late May seeding, the Argentine varieties will outyield the Polish varieties in southern Manitoba. Once seeding is delayed into June, the risk of frost and higher green seed content becomes a factor for consideration.

The later maturing Argentine canola varieties can develop quality problems with delayed seeding. For example, the triazine tolerant variety, OAC Triton, normally has a higher green seed content than conventional Argentine varieties. Experience has shown that seeded in the end of May or early June, there is a good possibility that OAC Triton will grade low, perhaps 'Sample' due to green seeds.

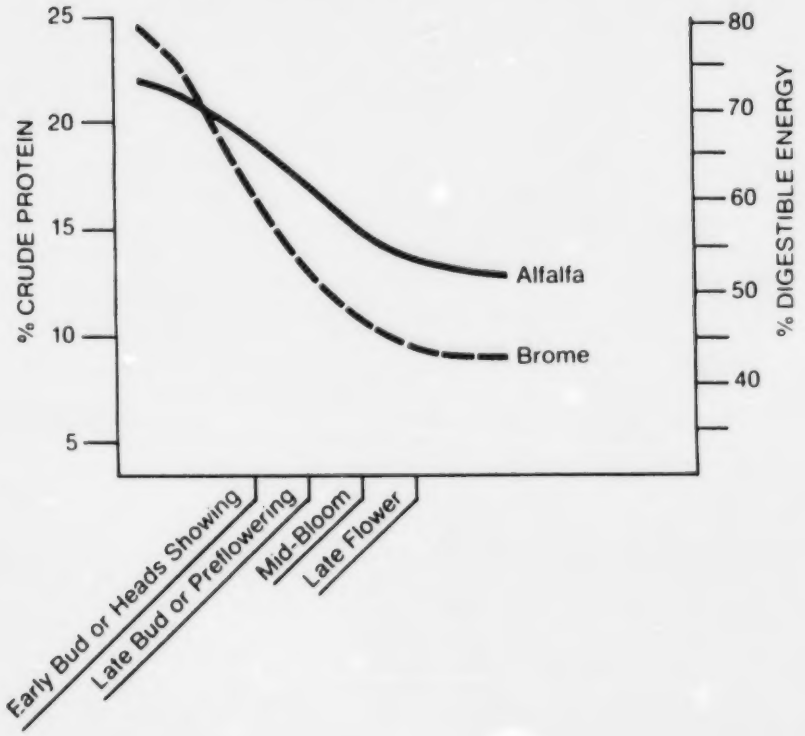
Page 21 – Cost of routine testing ranges from $10 to $20 depending on test reguired.

Page 26 – Cost ranges from about $10 per sample for a nitrogen only analysis to about $20 for a complete 10 nutrient analysis.

The 1988 fall soil samples from stubble land indicate that nitrogen levels are significantly above normal in areas of the province which experienced drought in 1988. In these areas, producers are advised to obtain a soil test recommendation on samples taken to 60 cm (24 in) or alternately consider the lower end of the general nitrogen recommmendation range for the specific crop in 1989.

Page 13 – Table 2
Iprodione, lindane (Rovral ST) is recommended for control of seedling blight as well as control of blackleg and flea beetle in canola.

Changes in crude protein and digestible energy of alfalfa and bromegrass with maturity.



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